

## *Grevillea maccutcheonii* (Proteaceae), a new rare *Grevillea* from Western Australia

G.J. Keighery<sup>1</sup> and R.J. Cranfield<sup>2</sup>

<sup>1</sup>Western Australian Wildlife Research Centre, Department of Conservation and Land Management, PO Box 51, Wanneroo, Western Australia 6065

<sup>2</sup>Western Australian Herbarium, Department of Conservation and Land Management, Locked Bag 104, Bentley Delivery Centre, Western Australia 6983

### Abstract

Keighery, G.J. & Cranfield, R.J. *Grevillea maccutcheonii* (Proteaceae), a new rare *Grevillea* from Western Australia. Nuytsia 11(1): 33-36 (1996). A new species in the Proteaceae, *Grevillea maccutcheonii* Keighery & Cranfield, is described and illustrated. The species is critically endangered, being known from only 27 plants in the wild.

### Introduction

During surveys for endangered flora on the Scott Coastal Plain (Keighery & Robinson 1992), and subsequently for a floristic classification of the Swan Coastal Plain (Gibson *et al* 1994), it became apparent that at least 12 unnamed taxa were endemic to shallow winter-wet red clay flats over ironstone found on both the Swan and Scott Coastal Plains. Three of these taxa have since been described as *Grevillea elongata* (Olde & Marriott 1994), *Brachysema minor* and *B. papilio* (Crisp 1995). Taxa still awaiting description include two species of *Darwinia* and a new *Chamelaucium* (being described by one of us (GJK) together with N.G. Marchant of the Western Australian Herbarium), a new *Loxocarya* (being described by B.G. Briggs and L.A.S. Johnson of the National Herbarium, Sydney), a new *Actinotus*, and new subspecies of *Calothamnus quadrifidus*, *C. lateralis* and *Grevillea manglesioides*.

This geomorphic unit has been largely cleared for grazing, and most taxa are reduced to remnant populations along road verges, or on the edges of State Forest Blocks. Six species, including the new *Grevillea* described here, are already under, or are proposed for, legal protection as Declared Rare Flora.

### Taxonomy

***Grevillea maccutcheonii*** Keighery & Cranfield, *sp. nov.*

*Grevilleae manglesioides* et *Grevilleae ripicolae* affinis, a qua imprimis differt ramulo glabro, foliis glabris, foliis amplexicaulibus, panduriformibus, duri, apicem pungentem et floribus majoribus.

*Typus*: South-east of Busselton [precise locality withheld for conservation reasons], Western Australia, 6 November 1993, G.J. Keighery 13786 (*holo*: PERTH 04110390; *iso*: AD, CANB, K, MEL, NSW).

Erect, spreading densely branched, domed *shrub* to 2 m high and 2 m wide, not lignotuberous or suckering. *Branchlets* terete, glabrous, reddish green, young growth red. *Immature leaves* entire or with a single apical lobe. *Mature leaves* sessile, pandurate, 12-33 mm long (mean 19), 6-22 mm wide (mean 11), with a central sinus, base stem-clasping, amplexicaule, rigid, glabrous, with a distinct white margin, margin flat, 3-lobed, one lobe apical, the others shortly below on either side, each lobe terminating in a black pungent point *c.* 1 mm long, shiny green above, dull green below, mid vein prominent when dry on both surfaces. *Inflorescence* terminal, racemose, 26-42-flowered, ?lower flowers more widely spaced than upper flowers; peduncle glabrous, 10-12 mm long; rachis glabrous, markedly decurved, usually simple, rarely two-branched; unit inflorescence 2-4 cm long, loosely hemispherical and secund to subsecund, acropetal. *Inflorescence bract* leaf-like, narrowly cordate. *Floral bracts* ovate, *c.* 1 mm long, 1 mm wide, margin hairy, caducous when buds are small. *Pedicels* 2-3 mm long, glabrous, green, torus oblique. *Flowers* reddish green, acroscopic. *Perianth* 6-8 mm long, narrowly ovate-oblong below the curve, *c.* 3 mm wide, green, glabrous outside, inside margins of tepals with a line of hairs and bearded in the throat above the ovary. *Nectary* prominent, yellow, broadly lunate. *Pistil* 20-24 mm long, glabrous; stipe 2-3 mm long; ovary obliquely ovoid, 1-2 mm long, green; style red; pollen presenter at 90 degrees, almost round, green; stigma almost central. *Fruits* brown, narrowly and obliquely ovoid, 13-16 mm long, 5-6 mm wide, surface smooth, pericarp uniform and *c.* 0.5 mm thick. *Seeds* narrowly oblong, 7-8 mm long, 2-3 mm wide, outer face markedly convex, margin revolute, inner face channelled, eliasome lacking. (Figure 1)

*Other specimens examined*. WESTERN AUSTRALIA: Tutunup area, G.S. McCutcheon 2694 & 2718 (PERTH).

*Distribution*. Known only from a small area near the base of the Whicher Range, south-east of Busselton, Western Australia.

*Habitat*. Occurs on perched wetlands called the Abba Wet Ironstone Flats, on shallow red sandy clay soils over ironstone. Associated species are a tall shrubland of *Viminaria juncea*, *Dryandra* sp., *Calothamnus quadrifidus*, *Hakea* aff. *varia* over low shrubs and sedges (Gibson *et al.* 1994). This unit is on the interface between the Swan Coastal Plain and the Whicher Scarp.

*Phenology*. Recorded in flower between May and December, peak flowering July to November. The flowers were probed by Brown, White Cheeked and New Holland Honeyeaters in November 1993. Mature fruits were found in April and May.

*Conservation status*. This species is Declared Rare Flora under the Western Australian Wildlife Protection Act. The species is considered as critically endangered, being known from a few plants on one road verge, and is the subject of a separate recovery plan.

*Etymology*. The epithet honours Grahame McCutcheon (born 21 September 1930, formerly an ecologist in the Environmental Protection Division of CALM), who has considerably aided the knowledge and conservation of the flora of the Busselton to Augusta area. It is fitting that this attractive and rare species confined to the area he knows so well will bear his name. The specific epithet is spelt "*maccutcheonii*" according to the International Code of Botanical Nomenclature of 1994, Recommendation 60C.4(a).

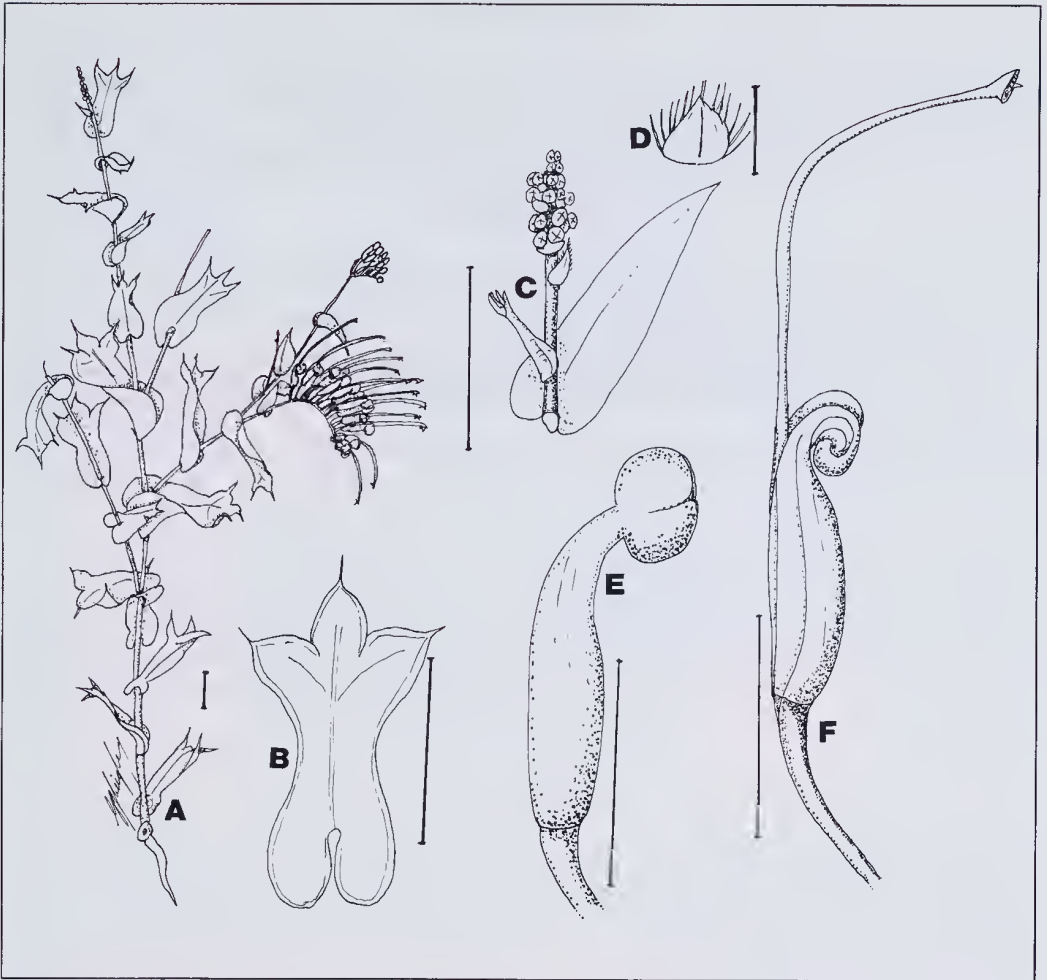


Figure 1. *Grevillea maccutcheonii* A - flowering stem, B - mature leaf, C - inflorescence at early bud stage, D - bract, E - bud, F - mature flower. Scale bar A, B, C, E & F = 10 mm, D = 1 mm. All from Keighery 13786.

*Discussion.* This species is related to *Grevillea manglesioides* Meisn., a species confined to the Busselton to Augusta area (Olde & Marriott 1995). *Grevillea manglesioides* occurs in the same area on the same geomorphic unit, but is parapatric with *G. maccutcheonii*.

The new species differs from *G. manglesioides* and the two other related taxa of this complex (*G. diversifolia* Meisn. and *G. papillosa* (D.J. McGillivray) P.M. Olde & N.R. Marriott) in having panduriform, rigid stem-clasping leaves and larger flowers (pistil 20-24 mm long vs 6-11 mm in all other members of the species complex). A less significant character distinguishing *G. maccutcheonii*, is that all ages of vegetative and floral organs are glabrous, with the exception of the margins of the floral bracts.

The new species could also be related to *Grevillea ripicola* A.S. George, but this has leaves that are sessile, narrow, divaricately pinnatipartite, once or twice divided into curved linear pungent lobes and with the upper surface silky hairy when young.

### Acknowledgements

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### References

- Crisp, M.D. (1995). Revision of *Brachysema* (Fabaceae: Mirbelieae). Austral. Syst. Bot. 8: 307-353.
- Gibson, N., Keighery, B.J., Keighery, G.J., Burbidge, A.H. & Lyons, M.N. (1994). A floristic survey of the southern Swan Coastal Plain. Report for the Australian Heritage Commission.
- Keighery, G.J. & Robinson, C.J. (1992). Declared Rare Flora and Other Plants in need of Special Protection of the Scott plains. Report to the Australian National Parks and Wildlife Service, Endangered Species Program by Department of Conservation and Land Management, Perth.
- Olde, P. & Marriott, N. (1994). "The Grevillea Book." Vol. 1. (Kangaroo Press: Sydney.)
- Olde, P. & Marriott, N. (1995). "The Grevillea Book." Vol. 3. (Kangaroo Press: Sydney.)